LLM Automated Evaluation Results

**Functional Requirement Evaluation Table**

* The following evaluation is based on the provided requirement document and the specified evaluation criteria. I first conducted the merging and exclusion operations:
* **Merging Rule**: Merge requirements with the same functional point for the same data entity (e.g., Route Planning (1.1) and Navigation Guidance (1.5) both involve the "Route" entity, but serve different functions—1.1 computes the route, 1.5 provides turn-by-turn instructions—so they were not merged. No other requirements were similar enough to warrant merging).
* **Exclusion Rule**: General system-level settings (e.g., Multilingual Support (1.7) and Personalization Settings (1.8)) were excluded and not counted as functional requirements.
* **Final Functional Requirement List**: After exclusions, 13 functional requirements remain (from the original 15; 1.7 and 1.8 excluded).
* **Data Entity Statistics**:  
  The entire document involves **12 system-managed data entities** (excluding external APIs or third-party data sources). These were extracted as core data objects from the functional requirements:

1. Routes – from route planning and navigation guidance.
2. Traffic Updates – from real-time traffic updates.
3. Transit Schedules – from public transit timetable queries.
4. Points of Interest (POIs) – from POI queries.
5. User Location – from real-time location tracking (real-time data managed by the system).
6. Offline Maps – from offline map support (stored in system after download).
7. Saved Routes – from saving frequently used routes (user-stored data).
8. Fare Estimates – from fare estimation (a computed property, but treated as a managed data point).
9. Transit Cards – from transit card recharge feature (system-managed balance).
10. User History – from intelligent recommendations (based on user travel history).
11. Community Shares – from community sharing (user-generated content).

* **Hallucination Requirement Evaluation Criteria**:
* A "hallucinated requirement" introduces operations involving a data entity that cannot be connected to any existing system entity, leading to a non-weakly connected E-R diagram (i.e., isolated nodes).
* Evaluation: All data entities revolve around the core navigation system (User Location and Routes), thus maintaining weak connectivity in the E-R diagram (e.g., User Location is linked to Routes, Routes to Traffic Updates, etc.). No isolated entities identified; therefore, no hallucinated requirements.

**Evaluation Table**

| Functional Requirement | Hallucination | Justification |

|------------------------|---------------|---------------|

Route Planning (1.1) | No | User preferences are undefined but not hallucinatory; Route, Traffic, etc., are connected to system core; input-output logic is valid.  
Real-Time Traffic Update (1.2) | No | Traffic entity is linked to Routes; external data supports functionality; logic is realistic.  
Transit Timetable Query (1.3) | No | Schedule entity is connected to Route; station query path is clear; functionality is reasonable.  
POI Search (1.4) | No | POI is linked to Location and Route; search logic is clear and realistic.  
Navigation Guidance (1.5) | No | Navigation is a derivative of Routes; data flow is clear, output well-defined.  
Real-Time Location Tracking (1.6) | No | User Location is closely tied to Navigation and Routes; tracking logic is valid.  
Offline Map Support (1.9) | No | Offline Maps are used with Route Planning; entity is valid, operation closed-loop.  
Save Frequent Routes (1.10) | No | Saved Routes depend on User Account (not explicitly stated but inferable); logic is complete.  
Fare Estimation (1.11) | No | Fare is a property of Route; input sources are clear; estimation logic is reasonable.  
Transit Card Recharge (1.12) | Yes | Transit Card entity is not defined in the system; balance management mechanism missing—hallucinated.  
Intelligent Recommendation (1.13) | No | User History storage not defined, but functional path is clear; recommendation logic is implementable.  
Community Sharing (1.14) | No | Sharing logic is valid, though "rating" field is undefined; function is largely complete.  
Accessible Navigation (1.15) | No | Accessible route is a subtype of Route; functional connection is clear; entity is valid.

**Summary**:

* The document involves **9 core data entities**.
* After merging by functional point and removing general settings, there are **13 functional requirements**.
* **Hallucinated requirements: 1** (Transit Card Recharge (1.12); the Transit Card entity is isolated).
* **Non-hallucinated requirements: 12** (all other requirements maintain E-R connectivity with the core system).